MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2015/2016

BBF 3124 – FINANCIAL DERIVATIVES
(All sections / Groups)

7 OCTOBER 2015
2.30 p.m - 4.30 p.m
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This Question paper consists of 3 pages with 5 Questions only.

2. Attempt **FOUR** out of **FIVE** questions. All questions carry equal marks and the distribution of the marks for each question is given.

3. Please write all your answers in the Answer Booklet provided.

QUESTION 1

Your financial consultant is trying to convince you to undertake what he describes as a riskless arbitrage. He lays the facts on the table for you. From the discussion you gather that the 3 month FBM KLCI futures is quoted at 608 points today. The spot FBM KLCI meanwhile has just hit 600 points. Upon further investigations you also discover that the 3 month KLIBOR rate is 4%, while the average dividend yield for a fully diversified portfolio is around 2%.

a. How do you determine whether your consultant is correct about the arbitrage opportunity?
(5 marks)

b. Given the mispricing, what would be your estimate of the potential riskless profit?
(5 marks)

c. How should you arbitrage?

(5 marks)

d. What would be the outcome of your strategy in (c) above if the spot index either goes up or down by 10 points at maturity? Tabulate your computations.
(10 marks)

(Total: 25 marks)

QUESTION 2

a. Explain the difference between 'basis' and 'basis risk'. Why is there 'basis risk'?
(9 marks)

b. Explain the incidences of contango and normal backwardation in futures market.
(7 marks)

c. Differentiate between trading volume and open interests. What do they signify?
(9 marks)

(Total: 25 marks)

Continued...

QUESTION 3

Ah Chong has gone long Telekom Berhad stocks at RM10.00. He subsequently longs a RM10.00 put and shorts a RM10.00 call on the stock. After a period of volatile fluctuation, the stock finally stabilizes at RM10.00. Both the call and put premiums are now equal at RM0.50.

a. Graph the strategy and show the overall position by using RM0.50 profit/loss interval for the vertical axis and RM1.00 price interval for the horizontal axis. What is the final overall strategy?

(14 marks)

b. What is the risk profile of the strategy?

(4 marks)

c. What is the objective of this strategy?

(7 marks)

(Total: 25 marks)

QUESTION 4

You are required to determine the total profit or loss (in Ringgit Malaysia) in each of the following scenarios:

a. Kandasamy goes long one lot of Maybank Berhad stock at RM10.00. He then buys one at-the-money call option on Maybank at RM0.22. Maybank stock price is RM10.40 at option maturity.

(6 marks)

b. *All other things remaining the same,* if Kandasamy had bought a put option instead, what would be his profit/loss?

(5 marks)

Continued...

c. Mr.Right and Mr True have different expectations about market performance in the near future. Mr. Right decides to long a 1000 points index call @ 15 points and shorts a 1000 points index put @ 10 points. Mr. True does the exact opposite. Determine the profit/loss to each for the following index value at option maturity if the index multiplier is RM100 per point:

i. 1030 points
ii. 960 points
iii. 1000 points

(12 marks)

d. What type or market participants are they (in part (c) above) based on their respective expectations?

(2 marks)

(Total: 25 marks)

QUESTION 5

On 24th June 2015, you observe the following spot market quotations. The 3 month KLIBOR is 6.75% whereas the 6 month KLIBOR is 8%.The 3 month KLIBOR futures maturing on 24th September 2015 meanwhile is priced at 93.00.

a. Is the 3 months KLIBOR futures correctly priced?

(5 marks)

b. Should you decide to arbitrage? If yes, how? If no, why not?

(5 marks)

c. Assuming the 3 month KLIBOR rate on 24th September is 9%, show the outcome based on your decision in (b) above.

(15 marks)

(Total: 25 marks)

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